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ABSTRACT

Fifty-eight books, monographs, and dissertations and 116 articles and papers published between 1953 and 1975 are listed in this bibliography of information about aptitude-treatment interactions (ATI). The emphasis is on research and development of theoretical models, but many sources deal with application of ATI theory to actual teaching and learning situations. Materials are categorized by type of publication and then subdivided by content areas: methodology, application of the ATI approach, ATI research reports, reviews of ATI research studies, and critiques of the ATI approach. This bibliography is intended to be most useful to the educational researcher and educational psychologist. It should also be helpful to the communications researcher, the learning theorist, the instructional designer, and the classroom teacher. (CH)

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Sources of Information about Aptitude-Treatment Interactions

Edited by Richard E. Clark

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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INTRODUCTION

So many bibliographies have been offered in instructional technology that the obvious question is why another one is necessary. Instructional technology bibliographies typically provide lists of research surveys or "how to" monographs on various media or techniques of instruction. This list presents an in-depth survey of books, monographs, and articles on a specific approach to a systematic way of thinking about instruction. Essentially, aptitude-treatment interactions (ATIs) are one way of solving educational problems. The method makes the assumption that all educational outcomes are a function of interactions between characteristics of students on the one hand, and the matching characteristics of instructional techniques on the other hand; i.e., all learning is assumed to be the result of interactions between students and teaching methods and/or media.

Another reason for offering this bibliography at this time is that recent reviews of educational technology and communications research generally have been depressing. Too many studies simply have not contributed either to educational practice or to the growth of good theories. The ATI model may provide an alternative way to think about some of the questions that plague educators.

The idea is not new, of course. Forty years ago Kurt Lewin suggested the model in his classic formula "Behavior results

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from the interaction between the person and the environment" or B = f (P x E). For the researcher or the designer of instruction the ATI model emphasizes the necessity of including the individual differences of students in "software" development or in drawing conclusions from research on instruction. For the educational psychologist the model demands a thorough consideration of the interaction between traditional measures of student characteristics and the various ways we have found to present ideas and concepts. But, in addition to enhancing the communication between psychologists and designers of instruction, the bibliography is based on the notion that "there is nothing as practical as a useful theory."

Although the ATI method may now be more useful to the researcher than the practitioner it is offered in the hopes that it will eventually improve instruction. Most important for those concerned with instructional technology and media is the potential of the ATI model for helping us to overcome Lee Shulman's valid criticism that we "measure individual differences with micrometers and treatments with divining rods." We expect that the instructional technologist will eventually make crucial contributions to the ATI paradigm, and subsequently, to educational practice. No other area of education has given more thought to instructional treatments. The concepts contained in the bibliography only suggest that we add two areas to our repertoire: first, a consideration of individual differences, and second, the process of matching students with instructional techniques.

At the time this bibliography is going to press the ATI model is still in its formative stages. Information about the methodology is still fragmented and incomplete. The bibliography is an attempt to pull together those writings that best characterize existing knowledge about aptitude-treatment interactions.

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—R.E.C.

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I. *Books, Monographs, and Dissertations*

INTRODUCTION TO ATI METHODOLOGY

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